

IN THE CLAIMS:

The following listing of claims replaces all prior versions and listings of claims in the present application:

Listing of Claims:

1-19. (Cancelled)

20. (New) A hollow fiber membrane module comprising:

a plurality of sheet-form hollow fiber membranes,

an anchoring member in which at least an end of a side of a hollow fiber membrane opening of the plurality of sheet-form hollow fiber membranes is fastened by the anchoring member so that the plurality of sheet-form hollow fiber membranes are substantially parallel to each other while leaving the end open,

an end face of the anchoring member on a side where the hollow fiber membranes are exposed is substantially rectangular, and

an end face of the anchoring member on a side where the hollow fiber membranes open is substantially circular,

wherein the anchoring member has a substantially rectangular parallelepiped shape on a side where the hollow fiber membranes are exposed, and has a cylindrical section having a substantially cylindrical shape on a side where the hollow fiber membranes open,

the hollow fiber membrane module satisfies the relationship

$$1.0 \leq W/D \leq 2.0,$$

wherein W(mm) is a length of the longer side of the end face where the hollow fiber membrane is exposed to the rectangular parallelepiped section and D(mm) is a diameter of the cylindrical section.

21. (New) A hollow fiber membrane module according to claim 20, wherein a relationship $0.2 \leq L/D \leq 1.0$ is satisfied, where D (mm) is a diameter of the cylindrical section and L (mm) is a length of the cylindrical section.

22. (New) A hollow fiber membrane module unit comprising:
a plurality of hollow fiber membrane modules according to claim 20 each comprising:

a plate member having a hole through which the cylindrical section passes is provided on a side surface of the hollow fiber membrane perpendicular to the sheet surfaces of sheet-form hollow fiber membranes, and the hollow fiber membrane module is fastened by the plate member.

23. (New) A hollow fiber membrane module unit according to claim 22, further comprising:

a water collecting cap which engages the cylindrical section, and wherein the plate member is fastened between the cylindrical section and the water collecting cap.

24. (New) A hollow fiber membrane module unit according to claim 23, comprising:

wherein the cylindrical section and the water collecting cap are engaged by a screw.

25. (New) A hollow fiber membrane module unit, wherein a plurality of hollow fiber membrane module units according to claim 23 are stacked in a vertical direction, sheet surfaces of the sheet-form hollow fiber membranes are disposed in a vertical direction, the water collecting caps that adjoin each other in a vertical direction are connected to each other by a water collecting member that extends in a vertical direction,

and a side frame is disposed on a side face parallel to the sheet surfaces of the sheet-form hollow fiber membranes.

26. (New) A hollow fiber membrane module unit according to claim 25, wherein vertical spacing between the sheet-form hollow fiber membranes of a hollow fiber membrane module adjoin in a vertical direction is 70 mm or less.

27. (New) A membrane filter device, wherein the membrane filter device includes a membrane module unit is adapted to be disposed in a water tank,
the membrane module unit having a plurality of hollow fiber membrane modules,
wherein

said hollow fiber membrane modules having a plurality of sheet-form hollow fiber membranes,

an anchoring member in which at least an end of a side of a hollow fiber membrane opening of the plurality of sheet-form hollow fiber membrane is fastened by the anchoring member so that the plurality of sheet-form hollow fiber membranes are substantially parallel to each other while leaving the end open,

an end face of the anchoring member on a side where the hollow fiber membranes are exposed is substantially rectangular, and an end face of the anchoring member on a side where the hollow fiber membranes open is substantially circular, and

the anchoring member has a rectangular parallelepiped section having a substantially rectangular parallelepiped shape on a side where the hollow fiber membranes are exposed, and a cylindrical section of substantially cylindrical shape on a side where the hollow fiber membranes open, and

the hollow fiber membrane module satisfies the relationship

$$1.0 \leq W/D \leq 2.0$$

wherein $W(\text{mm})$ is a length of the longer side of the end face where the hollow fiber membrane is exposed to the rectangular parallelepiped section and $D(\text{mm})$ is a diameter of the cylindrical section,

the filter membrane satisfy the following three relationships

$$1000 \leq S/A \leq 2000 \quad \text{formula (1)}$$

$$500 \leq S/V \leq 800 \quad \text{formula (2)}$$

$$0.70 \leq V'/V \leq 0.99 \quad \text{formula (3),}$$

wherein $S(\text{m}^2)$ is a membrane surface of the membrane module unit, $V'(\text{m}^3)$ is a volume of the membrane module unit and $V(\text{m}^3)$ is a volume of the water tank within wherein said membrane modules unit is to be disposed.

28. (New) A method for a membrane filtration, wherein in the method a membrane filter having a membrane module unit is placed in a water tank, said membrane module unit having a plurality of hollow fiber membrane modules,

said hollow fiber membrane module unit having an anchoring member in which at least an end of a side of a hollow fiber membrane opening of the plurality of sheet-form hollow fiber membrane is fastened by the anchoring member so that the plurality of sheet-form hollow fiber membranes are substantially parallel to each other while leaving the end open,

an end face of the anchoring member on a side where the hollow fiber membranes are exposed is substantially rectangular, and an end face of the anchoring member on a side where the hollow fiber membranes open is substantially circular,

the anchoring member having a rectangular parallelepiped section having a substantially rectangular parallelepiped shape on a side where the hollow fiber membranes are exposed, and a cylindrical section of substantially cylindrical shape on a side where the hollow fiber membranes open, the hollow fiber membrane module satisfies the relationship

$$1.0 \leq W/D \leq 2.0$$

wherein $W(\text{mm})$ is a length of the longer side of the end face where the hollow fiber membrane is exposed to the rectangular parallelepiped section and $D(\text{mm})$ is a diameter of the cylindrical section, and

wherein in the method a membrane filter operates the membrane filter device, and in the method the following relationship is satisfied

$N \geq 22.8D / \{S(0.05JT - J'T')\}$ formula (4), where $S(\text{m}^3)$ is a membrane surface of the membrane module unit, $J(\text{m}/\text{d})$ is a filtration flux, $T(\text{h})$ is a filtration time, N (times) is a cycle number of discharged water, $D(\text{m}^3)$ is a drainage volume, $J'(\text{m}/\text{d})$ is a reverse flux, $T'(\text{h})$ is a reverse time.